

1. (Currently Amended) A mask, wherein said mask comprises:
a substrate;
a cooling layer on said substrate; and
a planarizing layer on said cooling layer, and
a mask absorber above said planarizing layer,
wherein said substrate, said cooling layer, said planarizing layer, and said mask absorber
comprise an integrated structure.
2. (Original) The mask of claim 1, wherein said substrate structure material comprises a coefficient of thermal expansion less than 1 parts per billion per degree Celsius.
3. (Original) The mask of claim 1, wherein said substrate structure material comprises a coefficient of thermal expansion between the range of 1 parts per million per degree Celsius and 5 parts per billion per degree Celsius.
4. (Original) The mask of claim 1, wherein said mask comprises an extreme ultraviolet mask.
5. (Original) The mask of claim 1, wherein said cooling layer comprises a thermoelectric module.
6. (Original) The mask of claim 1, wherein said cooling layer comprises semiconductor pellets.
7. (Original) The mask of claim 4, wherein said semiconductor pellets comprise p-type pellets and n-type pellets.
8. (Original) The mask of claim 1, wherein said cooling layer comprises a thermoelectric

cooler.

9. (Original) The mask of claim 1, wherein said planarizing layer has height variations not exceeding 50 nm.
10. (Original) The mask of claim 1, where said planarizing layer supports an extreme ultraviolet multilayer reflector.
11. (Currently Amended) The mask of claim 1, where said planarizing layer supports a said mask absorber.
12. (Currently Amended) A mask blank comprising:
a substrate having at least one cooling channel; and
a cooling fluid within said cooling channel; and
a mask absorber above said substrate,
wherein said substrate, said cooling channel, and said mask absorber comprise an
integrated structure.
13. (Original) The mask blank of claim 12, wherein said cooling fluid comprises water.
14. (Original) The mask blank of claim 12, wherein said substrate comprises a low expansion ceramic.
15. (Original) The mask blank of claim 12, wherein said cooling channel has a cross section diameter of less than approximately 1 micron.
16. (Original) The mask blank of claim 12, wherein said cooling channel has a cross section diameter of up to approximately 1 mm.

17. (Original) The mask blank of claim 12, further comprising a cover material covering said cooling channel.
18. (Currently Amended) A method of making a mask blank, said method comprising:
forming at least one cooling channel in a mask substrate; ~~and~~
enclosing said channels with a cover material; and
forming a mask absorber above said mask substrate layer,
wherein said forming of said substrate, said cooling channel, and said mask absorber
forms an integrated structure.
19. (Original) The method of claim 18, wherein said forming of said cooling channel comprises direct machining of said mask substrate.
20. (Original) The method of claim 18, wherein said forming of said cooling channel comprises sintering said mask substrate.